



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/778,008	02/12/2004	Zakar Raffi Hachikian	ITW 0009 PA/41038.13/1455	3347
51635 7590 06/11/2008 DINSMORE & SHOHL LLP ONE DAYTON CENTRE, ONE SOUTH MAIN STREET SUITE 1300 DAYTON, OH 45402-2023			EXAMINER FEELY, MICHAEL J	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 06/11/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/778,008	Applicant(s) HACHIKIAN, ZAKAR RAFFI	
	Examiner Michael J. Feely	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-38, 42-56, 58, 59 and 61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-37, 42, 43, 45-53, 55, 56, 58, 59 and 61 is/are rejected.
- 7) ☒ Claim(s) 9-12, 15, 38, 44, 54, 58, 59 and 61 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 1-12, 14-38, 42-56, 58, 59, and 61 are pending.

Response to Amendment

1. The rejection of claims 13, 40, 41, and 60 under 35 U.S.C. 102(b) as being anticipated by Walker (US Pat. No. 5,688,905) has been rendered moot by the cancellation of these claims.
2. The rejection of claims 1-10, 14-18, 21-23, 26-32, 36, 37, 42, 45-49, 52, 55, 58, 59, and 61 under 35 U.S.C. 102(b) as being anticipated by Walker (US Pat. No. 5,688,905) has been overcome by amendment.
3. The rejection of claim 33 under 35 U.S.C. 103(a) as being unpatentable over Walker (US Pat. No. 5,688,905) has been overcome by amendment.
4. The rejection of claim 39 under 35 U.S.C. 103(a) as being unpatentable over Walker (US Pat. No. 5,688,905) in view of Alvino et al. (US Pat. No. 4,327,143) has been rendered moot by the cancellation of this claim.
5. The rejection of claims 6, 19, 20, 24-26, 38, and 43-45 under 35 U.S.C. 103(a) as being unpatentable over Walker (US Pat. No. 5,688,905) in view of Alvino et al. (US Pat. No. 4,327,143) has been overcome by amendment.
6. The rejection of claims 11, 12, 50, 51, and 56 under 35 U.S.C. 103(a) as being unpatentable over Walker (US Pat. No. 5,688,905) in view of Chow et al. (US Pat. No. 4,507,363) has been overcome by amendment.

Art Unit: 1796

7. The rejection of claims 34, 35, 53, and 54 under 35 U.S.C. 103(a) as being unpatentable over Walker (US Pat. No. 5,688,905) in view of Alvino et al. (US Pat. No. 4,327,143) and Chow et al. (US Pat. No. 4,507,363) has been overcome by amendment.

Claim Objections

8. Claims 9-12, 15, 58, 59, and 61 are objected to because of the following informalities: independent claim 58 fails to disclose a percentage basis (weight) for the materials in the resin component. Claims 9-12, 15, 59, and 61 are objected to because they are dependent from claim 58. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. The rejection of claims 14, 30, and 35 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention *stands for the reasons of record*.

Claims 14, 30, and 35 disclose *an unmodified amide/imidazoline*. The meaning of the forward slash in this term is unclear: amide or imidazoline; amide and imidazoline; adduct of amide and imidazoline. Applicant has cited limited use of this term in the prior art; however, they have failed to shed any light on the meaning of it.

Art Unit: 1796

11. Claims 1-8, 14, 16-35, 55, and 56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims feature a *mixed viscosity* value of less than 150 cps. Viscosity is a temperature-dependent property; however, the claims fail to explicitly provide a measurement temperature for the instantly claimed range. For the purposes of the prior art, this *mixed viscosity* has been treated as room temperature (an ambient temperature from 20-25°C/68-77°F).

Claim interpretation

12. In the pending claims, the recitation “*infiltrant*,” has been given little patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In the instant case, the preamble merely recites the intended use of the composition, wherein the prior art can meet this future limitation by merely being capable of such intended use.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-7, 9, 14-18, 21-24, 26, 27, 29-34, 36, 37, 42, 43, 45-48, 52, 53, 55, 58, 59, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartman et al. (US Pat. No. 6,068,885).

Regarding claims 1-7, 16-18, 21-23, 26, 27, 29, 31-34, 36, 37, 42, 45, and 52, Hartman et al. disclose: **(1)** a two component system (Abstract; column 2, lines 57-65) comprising:

a resin component (column 3, lines 9-50) comprising: an epoxy resin (column 3, lines 9-16); and a diluent (column 3, lines 17-50); and

a hardener component (column 3, line 51 through column 4, line 11) comprising: *one or more amine or amide curing agents* selected from unmodified aliphatic amines, modified aliphatic amines, unmodified cycloaliphatic amines, modified cycloaliphatic amines, modified amidoamines, and unmodified amidoamines (column 3, lines 51-56); and optionally a catalyst (column 3, lines 57-65);

wherein the system has a mixed viscosity of less than 150 cps (column 4, lines 45-56);

(2) wherein the epoxy resin is selected from bisphenol A, bisphenol F, or combinations thereof (column 3, lines 9-16);

(3) wherein the diluent is selected from reactive diluents, nonreactive diluents, or combinations thereof (column 3, lines 17-50); **(4)** wherein the diluent is a reactive diluent

Art Unit: 1796

comprising a combination of difunctional reactive diluents (column 3, lines 17-50), and monofunctional reactive diluents (column 3, lines 17-50); **(5)** wherein the difunctional reactive diluent is diglycidyl ether (column 3, lines 26-30), and the monofunctional reactive diluent is glycidyl ether (column 3, lines 30-35); **(6)** wherein the diglycidyl ether is neopentyl glycol diglycidyl ether (column 3, lines 26-30);

(7) wherein the amine is an unmodified aliphatic amine (column 3, lines 51-56);

(16) wherein the catalyst is selected from tertiary amines or benzyl alcohol (column 3, lines 57-60);

(17, 29, 31) a two component system (Abstract; column 2, lines 57-65) comprising:

a resin component (column 3, lines 9-50) comprising: about 50 to about 90 % by weight of resin component of an epoxy resin (column 3, lines 9-16); and about 10 to about 50 % by weight of resin component of a diluent (column 3, lines 17-50); and

a hardener component (column 3, line 51 through column 4, line 11) comprising: *one or more amine or amide curing agents* selected from unmodified aliphatic amines, modified aliphatic amines, unmodified cycloaliphatic amines, modified cycloaliphatic amines, modified amidoamines, and unmodified amidoamines (column 3, lines 51-56); and 0 to about 10 % by weight of hardener component of a catalyst (column 3, lines 57-65; column 4, lines 4-11);

wherein the system has a mixed viscosity of less than about 150 cps (column 4, lines 45-56);

(18) wherein the epoxy resin is selected from bisphenol A, bisphenol F, or combinations thereof (column 3, lines 9-16);

Art Unit: 1796

(21) wherein the diluent is selected from reactive diluents, nonreactive diluents, or combinations (column 3, lines 17-50); (22) wherein the diluent is a reactive diluent comprising a combination of difunctional reactive diluents (column 3, lines 17-50), and monofunctional reactive diluents (column 3, lines 17-50); (23) wherein the difunctional reactive diluent is diglycidyl ether (column 3, lines 26-30), and the monofunctional reactive diluent is glycidyl ether (column 3, lines 30-35); (26) wherein the diglycidyl ether is neopentyl glycol diglycidyl ether (column 3, lines 26-30);

(27) wherein the amine is an unmodified aliphatic amine (column 3, lines 51-56);

(32) wherein the catalyst is selected from tertiary amines or benzyl alcohol (column 3, lines 57-60);

(33) wherein the catalyst is present in an amount of about 3 to about 7 % by weight of hardener component (column 4, lines 4-11);

(34) wherein the resin component comprises: about 50 to about 90 % by weight of resin component of the epoxy resin selected from bisphenol A, bisphenol F, or combinations thereof (column 3, lines 9-16); and about 10 to about 50 % by weight of resin component of a reactive diluent (column 3, lines 17-50) selected from diglycidyl ether, glycidyl ether, or combinations thereof (column 3, lines 17-50);

(36 & 52) a two component system (Abstract; column 2, lines 57-65) comprising:

a resin component (column 3, lines 9-50) comprising: about 50 to about 90 % by weight of resin component of an epoxy resin (column 3, lines 9-16); and about 5 to about 30 % by weight of resin component of a difunctional reactive diluent (column 3, lines 44-50); and about 5

Art Unit: 1796

to about 20 % by weight of resin component of a monofunctional reactive diluent (column 3, lines 44-50); and

a hardener component (column 3, line 51 through column 4, line 11) comprising: *one or more amine or amide curing agents* selected from unmodified aliphatic amines, modified aliphatic amines, unmodified cycloaliphatic amines, modified cycloaliphatic amines, modified amidoamines, and unmodified amidoamines (column 3, lines 51-56); and optionally a catalyst (column 3, lines 57-65);

(37) wherein the epoxy resin is selected from bisphenol A, bisphenol F, or combinations thereof (column 3, lines 9-16); and

(42) wherein the difunctional reactive diluent is diglycidyl ether (column 3, lines 26-30), and the monofunctional reactive diluent is glycidyl ether (column 3, lines 30-35); and (45) wherein the diglycidyl ether is neopentyl glycol diglycidyl ether (column 3, lines 26-30).

Regarding all of the above claims, Hartman et al. fail to explicitly disclose: a hardener component comprising: an amine selected from unmodified aliphatic amines, modified aliphatic amines, unmodified cycloaliphatic amines, modified cycloaliphatic amines, or combinations thereof; and an amide selected from modified amidoamines, unmodified amidoamines, or combinations thereof.

Rather, they disclose: “Part B of the two-component epoxy sealer/healer contains *one or more amine curing agents*. Examples of amine curing agents include *aliphatic primary, secondary and tertiary amines**, aromatic amines, *cycloaliphatic amines**, *heterocyclic amines**, *amido amines*** and *polyether amines**,” (see column 3, line 51-55: ** denotes amines of the instant invention and **denotes amides of the instant invention*). In light of this, the instantly

Art Unit: 1796

claimed combination would have been obvious to the skilled artisan based on: (a) the size of the list; and (b) the disclosed use of one or more of these materials.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the instantly claimed combination of amine and amide hardener in the composition of Hartman et al. because: (a) they disclose a small list of hardeners featuring the instantly claimed amines and amides; and (b) they disclose the use of one or more of these materials.

Further regarding claims 17, 29, 31, 34, 36, and 52, Hartman et al. fails to explicitly disclose the following proportions within the hardener:

(17) a hardener component comprising: about 20 to about 80 % by weight of hardener component of an amine selected from unmodified aliphatic amines, modified aliphatic amines, unmodified cycloaliphatic amines, modified cycloaliphatic amines, or combinations thereof; and about 20 to about 70 % by weight of hardener component of an amide selected from unmodified amidoamines, modified amidoamines, or combinations thereof; (29) wherein the amine is present in an amount of about 30 to about 60 % by weight of hardener component; (31) wherein the amide is present in an amount of about 40 to about 60 % by weight of hardener component;

(34) a hardener component comprising: about 20 to about 80 % by weight of hardener component of an unmodified aliphatic amine; and about 20 to about 70 % by weight of hardener component of a modified amidoamine, an unmodified amidoamine, or combinations thereof;

(36) a hardener component comprising: about 30 to about 90 % by weight of hardener component of an amine selected from unmodified aliphatic amines, modified aliphatic amines, unmodified cycloaliphatic amines, modified cycloaliphatic amines, amidoamines, or

Art Unit: 1796

combinations thereof; and about 10 to about 40 % by weight of hardener component of an amide selected from polyamides and mixtures thereof; and

(52) wherein the amide is present in an amount of about 20 to about 35 % by weight of hardener component.

It should first be noted that Applicant fails to provide any criticality for these material proportions. Secondly, the teachings of Hartman et al. embrace any proportional combination of the instantly claimed amines and amides, so long as they are provided as a whole in an approximate stoichiometric amount, with respect to the epoxy resin part (*column 4, lines 4-6*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the instantly claimed proportions of amines and amides in the hardener component of Hartman et al. because: (a) Applicant fails to provide any criticality for these material proportions; and (b) the teachings of Hartman et al. embrace any proportional combination of the instantly claimed amines and amides, so long as they are provided in an appropriate stoichiometric amount, with respect to the epoxy resin part.

Regarding claims 46-48, 53, and 55, Hartman et al. fails to explicitly disclose the following combinations of materials and proportions thereof within the hardener:

(46 & 55) wherein the amine is a mixture of a polyamine unmodified aliphatic amine and a second unmodified aliphatic amine; (47) wherein the amine is a mixture of about 20 to about 80 % by weight of hardener component of the polyamine and about 10 to about 40 % by weight of hardener component of the second unmodified aliphatic amine; (48) wherein the amine is a mixture of about 35 to about 60 % by weight of hardener component of the polyamine and about 20 to about 30 % by weight of hardener component of the second unmodified aliphatic amine

Art Unit: 1796

and (53) about 20 to about 80 % by weight of hardener component of the polyamine; about 10 to about 40 % by weight of hardener component of the second unmodified aliphatic amine; and about 10 to about 40 % by weight of hardener component of a mixture of polyamides.

As set forth above, it should first be noted that Applicant fails to provide any criticality for these material combinations and proportions thereof. Secondly, the teachings of Hartman et al. embrace any combination of the instantly claimed amines and amides, and proportions thereof, so long as they are provided as a whole in an approximate stoichiometric amount, with respect to the epoxy resin part (*column 4, lines 4-6*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the instantly claimed combinations of amines and amides, and proportions thereof, in the hardener component of Hartman et al. because: (a) Applicant fails to provide any criticality for these material combinations and proportions; and (b) the teachings of Hartman et al. embrace any combination of the instantly claimed amines and amides, and proportions thereof, so long as they are provided in an appropriate stoichiometric amount, with respect to the epoxy resin part.

Regarding claims 9, 15, 24, 43, 58, 59, and 61, the teachings of Hartman et al. are as set forth above and incorporated herein. Hartman et al. fails to explicitly disclose the following proportions within the resin component:

(9, 15, 58, 59, 61) wherein the reactive diluent comprises a mixture of about 5 to about 30 % of a difunctional reactive diluent; about 5 to about 20 % of a monofunctional reactive diluent;

(24 & 43) wherein the reactive diluent comprises a mixture of about 5 to about 30 % by weight of resin component diglycidyl ether and about 5 to about 20 % by weight of resin component glycidyl ether.

It should first be noted that Applicant fails to provide any criticality for these material proportions. Secondly, the total amount of diluent used in the instant claims (*about 10 to about 50% by weight*) overlaps the Hartman et al. range of 45-60% by weight (*see column 3, lines 44-50*). This total diluent range in Hartman et al. enables a viscosity of no greater than 100 cps (*see column 4, lines 45-56*). Therefore, so long as the diluents are provided as a whole in an amount of 45-60% by weight of the resin component, Hartman et al. would have rendered the instant invention obvious, yielding the same low viscosity value and infiltrating capabilities of the instant invention.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the instantly claimed proportions of reactant diluents in the resin component of Hartman et al. because: (a) Applicant fails to provide any criticality for these material proportions; (b) the total diluent used in the instant claims overlaps the Hartman et al. range of total diluent, which enables a viscosity of no greater than 100 cps; and (c) Hartman et al. would have yielded the same low viscosity value and infiltrating capabilities of the instant invention, so long as the diluents are provided as a whole in an amount of 45-60% by weight.

Regarding claims 14 and 30, Hartman et al. fail to disclose: (14 & 30) wherein the amide is a modified amide/imidazoline or an unmodified amide/imidazoline.

Applicant points out in the remarks (*see first page of the remarks filed 2/29/08*) that the skilled artisan would have recognized this material as a known amide used for curing epoxy resin

Art Unit: 1796

compositions. In light of this, it has been found that the selection of known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a modified amide/imidazoline or an unmodified amide/imidazoline as the amide of Hartman et al. because Applicant has essentially stated on the record that this material would have been recognized by the skilled artisan as a suitable amide used for curing epoxy resin compositions.

15. Claims 8, 10, 28, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartman et al. (US Pat. No. 6,068,885) in light of McLean et al. (US Pat. No. 4,480,082).

Regarding claims 8 and 28, Hartman et al. fail to explicitly disclose: **(8 & 28)** wherein the unmodified aliphatic amine is aminoethyl-piperazine.

The teachings of McLean et al. demonstrate that these materials are recognized in the art as suitable heterocyclic amines used for curing epoxy resin compositions (*see column 3, lines 54-68*). In light of this, it has been found that the selection of known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention use aminoethyl-piperazine in the composition of Hartman et al. because the teachings of McLean et al. demonstrate that these materials are recognized in the art as suitable heterocyclic amines used for curing epoxy resin compositions.

Art Unit: 1796

Regarding claims 10 and 49, Hartman et al. fail to explicitly disclose: **(10 & 49)** wherein the polyamine is a poly-oxypropyleneamine base polyamine.

The teachings of McLean et al. demonstrate that these materials are recognized in the art as suitable polyether amines used for curing epoxy resin compositions (*see column 3, lines 54-68*). In light of this, it has been found that the selection of known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention use poly-oxypropyleneamine base polyamine in the composition of Hartman et al. because the teachings of McLean et al. demonstrate that these materials are recognized in the art as suitable polyether amines used for curing epoxy resin compositions.

16. Claims 11 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartman et al. (US Pat. No. 6,068,885) in light of Golding et al. (US Pat. No. 4,916,020).

Regarding claims 11 and 50, Hartman et al. fail to explicitly disclose: **(11 & 50)** wherein the unmodified aliphatic amine is a diethylene glycol di(aminopropyl) ether base unmodified aliphatic amine.

The teachings of Golding et al. demonstrate that these materials are recognized in the art as suitable polyether amines used for curing epoxy resin compositions (*see column 10, line 67 through column 11, line 8*). In light of this, it has been found that the selection of known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention use diethylene glycol di(aminopropyl) ether base unmodified aliphatic amine in the composition of Hartman et al. because the teachings of Golding et al. demonstrate that these materials are recognized in the art as suitable polyether amines used for curing epoxy resin compositions.

17. Claims 12, 51, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartman et al. (US Pat. No. 6,068,885) in light of McLean et al. (US Pat. No. 4,480,082) and Golding et al. (US Pat. No. 4,916,020).

Regarding claims 12, 51, and 56, the combined teachings of Hartman et al., McClean et al. and Golding et al. are as set forth above and incorporated herein. They fail to explicitly disclose: **(12, 51, 56)** wherein the amine is a mixture of a poly-oxypropyleneamine base polyamine and a diethylene glycol di(aminopropyl) ether base unmodified aliphatic amine.

As set forth above, it should first be noted that Applicant fails to provide any criticality for these material combinations. Secondly, the teachings of Hartman et al. embrace any combination of the instantly claimed amines and amides, and proportions thereof, so long as they are provided as a whole in an approximate stoichiometric amount, with respect to the epoxy resin part (*column 4, lines 4-6*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the instantly claimed combinations of amines and amides, and proportions thereof, in the hardener component of Hartman et al. because: (a) Applicant fails to provide any criticality for these material combinations; and (b) the teachings of Hartman et al. embrace any

Art Unit: 1796

combination of the instantly claimed amines and amides, and proportions thereof, so long as they are provided in an appropriate stoichiometric amount, with respect to the epoxy resin part.

Allowable Subject Matter

18. Claims 38, 44 and 54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including *all of the limitations of the base claim and any intervening claims*.

19. Claims 19, 20, 25, and 35 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include *all of the limitations of the base claim and any intervening claims*.

20. The following is a statement of reasons for the indication of allowable subject matter:
Hartman et al. fail to reasonably teach or suggest the following:

(19 & 38) the compositions of claims 17 or 36 wherein the epoxy resin is present in an amount of *about 70 to about 85 % by weight* of resin component;

(20) the composition of claim 17 wherein the diluent is present in an amount of *about 15 to about 30% by weight* of resin component;

(25 & 44) the compositions of claims 24 or 43 wherein the reactive diluent comprises a mixture of *about 10 to about 20 % by weight* of resin component diglycidyl ether and *about 5 to about 10 % by weight* of resin component glycidyl ether;

(35 & 54) the compositions of claims 34 or 53 wherein the resin component comprises: *about 70 to about 85 % by weight* of resin component of bisphenol F; and *about 10 to about 20*

Art Unit: 1796

% by weight of resin component of the reactive diluent diglycidyl ether; *about 5 to about 10 % by weight* of resin component of the reactive diluent glycidyl ether.

Hartman et al. discloses that their resin component features 40-55 wt% of epoxy resin (*see column 3, lines 9-16*) and 45-60 wt% of diluent (*see column 3, lines 44-50*). These proportions yield a mixed viscosity of no greater than 100 cps at 73°F (*see column 4, lines 45-56*). In each of the above-mentioned claims, either the epoxy amount is greater than the range set forth in Hartman et al. or the diluent amount is less than the range set forth in Hartman et al. Either or these scenarios would suggest an increase in viscosity and represent a teaching away. There is no motivation to alter the teachings of Hartman et al. in such a way that would lead to an increase in viscosity.

Response to Arguments

21. Applicant's arguments with respect to the prior art rejections of the pending claims have been considered but are moot in view of the new ground(s) of rejection.

22. Applicant's arguments with respect to the previous 112, 2nd paragraph, rejection has been fully considered but it is not persuasive.

Claims 14, 30, and 35 disclose *an unmodified amide/imidazoline*. The meaning of the forward slash in this term is unclear: amide or imidazoline; amide and imidazoline; adduct of amide and imidazoline. Applicant has cited limited use of this term in the prior art; however, they have failed to shed any light on the meaning of it.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

June 9, 2008